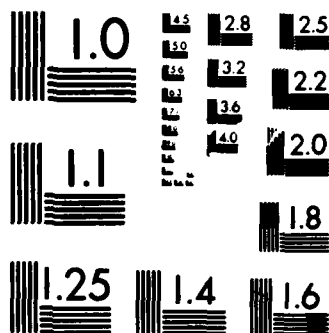


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ARE THE UNITED STATES HEAVY CORPS
TRAINED, EQUIPPED AND ORGANIZED ADEQUATELY TO FIGHT AND WIN
IN A HIGH INTENSITY ENVIRONMENT

BY

LIEUTENANT COLONEL WILLIAM J. MCGOWAN

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An interesting question has developed with the introduction of Airland Battle and the emphasis placed on the capabilities of the heavy corps. Are the United States heavy corps adequately trained, equipped and organized to fight and win in a high intensity environment? Exploration of essential requirements for the heavy corps to fight and win in a high intensity environment were examined. It included the following: Command and Control, the Army's latest doctrine, training, combat service support (offense and defense), high - tech equipment, effective maintenance and leadership. Further, an interview was conducted with a heavy corps commander. It was noted that the weakest element in the corps' ability to win in high intensity environments is the inability of the support command to conduct its primary missions of arming, refueling, manning and maintaining the corps during offensive operations. The two primary reasons are lack of modernization in the combat service support area and the high percentage of required personnel who must come from the Army National Guard and Reserves. The United States Army heavy corps will not win in a high intensity environment if the tail is not structured, equipped and trained to support the teeth for offensive operations.

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Are The United States Heavy Corps
Trained, Equipped and Organized Adequately to Fight And Win
In A
High Intensity Environment.

An Individual Essay

by

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Keywords: Logistics support; Logistics management;

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PREFACE

An interesting question has developed with the introduction of Airland Battle and the emphasis placed on the capabilities of the heavy corps. The United States is investing an enormous amount of money against the potentiality of future wars. A key investment has produced the heavy corps. One has to ask, "Are the United States heavy corps adequately trained, equipped and organized to fight and win in a high intensity environment?" A heavy corps normally consists of two to five divisions (Armor and Mechanized); an artillery force; an aviation brigade; a support command; a military intelligence brigade; a military police brigade; a chemical brigade; and an engineer brigade.

The corps has been a significant organization in army operations since the war between the states; Longstreet, Thomas, Sherman and Jackson were key corps commanders in the Civil War. As the history books reflect, the corps have demonstrated their value and contributions to winning wars. V Corps displayed its worthiness during the Spanish-American War, and during World Wars I and II, and the Korean War, the corps served as a major ground maneuver force. General Rommel, Stilwell and Patton successfully conducted corps operations in North Africa and Asia during World War II. Furthermore, Generals Gerow, Middleton, Collins and Haislip commanded corps that fought in Western Europe.

Numerous military writers and teachers have noted that the corps will function at operational and tactical levels: "In the Korean War, for example, the 10th Corps conducted a major independent operation--the Inchon landing, clearly an operational-level action with strategic impact. Similarly, today's corps, the army's largest unit of maneuver, may conduct

major operations which have significant impact on the strategic aims in a given theater."¹

Several areas were studied to determine the heavy corps' potential of winning. These areas were: doctrine, training, combat service support, equipment/maintenance and leadership. Furthermore, an interview was conducted with a heavy corps commander. FM 100-5 was written to provide an update on fighting doctrine. However, there is insufficient published doctrine relating to offensive maneuvers, how to move corps and logistics. An area that will require numerous fixes is the corps' support command. The primary reasons are: insufficient modernization as compared to the divisions and corps' combat support elements and the support command's dependence upon filler units and personnel from the National Guard and Reserves.

The United States Army heavy corps will not win in a high intensity environment if the tail is not structured, equipped and trained to support the teeth in offensive operations.

COMMAND AND CONTROL

A key element associated with the corps' ability to succeed in battle is command and control. The missions of the corps commander are demanding and require excellent command and control to accomplish. It is often said, "Without communications, commanders have no command." To quote the late General Omar Bradley, "as the Signal Corps likes to remind us, Congress can make a general but it takes communication to make him a commander."² To be successful, command and control must be employed in a disciplined way to ensure important information is timely, accurate, and is provided to the appropriate people.

"The corps commander assigns missions to the divisions, reinforces them with additional forces, distributes available tactical air and naval gunfire support, and coordinates the divisions' efforts. He also influences tactical operations by directing fighting against follow-on forces, shifting the main effort, employing corps-controlled combat and combat support units, committing the corps' reserve at the decisive time and place to assure tactical success or convert tactical success to operational advantage, and directing combat service support priority units, and activities in accordance with operational needs."³

The main objective of the corps is to initiate actions faster than the enemy and cause the enemy to react. The success of these actions can only be assured through responsive command and control. As the central point on the battlefield where combat power is used to achieve tactical and operational advantage over the enemy, the corps headquarters must be capable of accomplishing the following tasks:

- operate continuously
- operate from more than one site

- maintain continuous communication with higher, lower and adjacent units
- receive, analyze and disseminate pertinent information in a timely manner
- maintain liaison with other agencies, services, adjacent corps and allied forces
- conduct current tactical operations simultaneously while planning for future battles and supporting the forces

DOCTRINE

The corps is the focal point for implementing the new army doctrine-- Airland Battle: "Initiative, depth, agility, and synchronization are the operative words of Airland Battle doctrine."⁴ There are various levels of tactical/operational command; the corps is best qualified to execute the army's operational concept because of its ability to continually gather and process intelligence. It is the ideal level for synchronization of air, ground and naval fires.

The Airland Battle doctrine has made the corps responsible for rear, main, and deep battles. The following is a brief summary of changes that have taken place: an increase in the strength of the military police brigade; 8 - inch artillery battalions assigned to the corps; multiple launch rockets systems assigned; and target acquisition and attack helicopter battalions assigned.

The following is a summary of a conversation with a heavy corps commander in February, 1987: "I'd say the doctrine is totally inadequate for offensive maneuvers. It is totally inadequate in telling you what the purpose of maneuver is and how to gain and take advantage of vulnerabilities of the enemy. It's currently inadequate on how you move a corps. It is not adequate in the realities of how you fight a division from the

march and the number of vehicles and things that are actually there. So, I'd say, basically, corps level doctrine is absent, except from a defensive point of view. I guess the other thing is the logistics doctrine is bankrupt." Logistical doctrine will require enormous fixes.

TRAINING

How does a heavy corps develop the mental and physical toughness required to fight and win an intensive battle? The process must start at battalion level. Each battalion, whether it be combat, combat support or combat service support, must construct long and short range calendars that incorporate higher headquarters' guidance and internal training programs. Although there is a laundry list of important requirements for each battalion, some are more essential. The list should contain battalion and company Army Training Evaluation Plans, Common Task Tests, Commander's Evaluations, Skill Qualification Tests, physical training, weapons firing, officer and noncommissioned officer professional development classes and maintenance-related training. The corps commander's primary role is to provide guidance and resources to support the battalion training plans. Furthermore, division and corps staffs must enhance capabilities in various command post exercises. Most importantly, the staffs must participate in large field training exercises locally and overseas.

Another significant aspect that must be highlighted is the corps' ability to deliver accurate/mass firepower on the enemy. Thus, one must not overlook the extensive training and resources devoted to gunnery for Abrams tanks, Infantry fighting vehicles, artillery (including the Multiple Launch Rocket Systems) and the Apache helicopters. These systems are the heart of the corps' ability to fight and win.

Training is vital; more precisely, quality training is essential.

Quality training cannot take place without leaders who are technically and tactically competent; well disciplined soldiers; high morale; a solid family support system; sufficient resources provided by the managers/leaders; and a comprehensive maintenance program. There is not sufficient time to train on all tasks required by the different agencies and headquarters in the United States Army; the leaders of the corps must establish a training priority list - a list which begins with individual training and culminates with each unit participating in large scale operations/maneuvers. Nevertheless, regardless of the echelon, key elements are indicative of a solid training program. All members of the corps must display self discipline, positive personal appearance, high morale, competency (tactically and technically), enthusiasm and perseverance.

Normally, soldiers in the heavy corps say, "I want structure, discipline, challenge, fairness and someone I can look up to proudly as a model of what I can hope to be in the future."⁵ The leaders in the corps can fulfill our soldiers' dreams. They can mold the young soldiers into a well trained and competent force. The life blood of a heavy corps' ability to fight and win in a high intensive environment is a reservoir of well-trained, disciplined and well-equipped soldiers.

COMBAT SERVICE SUPPORT

Another ingredient of the heavy corps' ability to sustain itself and win in a high intensity environment lies in the capability of the support command to do its job. The corps' success demands that the combat service support personnel be competent, innovative, and aggressive. The leaders and soldiers must understand how performing their tasks leads to attain-

ment of corps commander's objectives.

How does one determine if the support command is being successful? Doctrine states "Combat service support effectiveness is measured by the capability of the corps logistics and personnel planners to support the kind of battle it anticipates. Whether in a defensive or offensive posture, logistics and personnel planners and operators must continuously plan for and allocate resources to support the corps in the close-in battle, the attack of follow-on forces, and rear area protection operations."⁶

We must address the heavy corps' ability to arm, refuel, man and maintain itself during offensive and defensive operations. Is the corps support command provided with sufficient training opportunities (on a large scale) to practice these skills as advocated in FM 100-5? "During its August 1944 pursuit across France ---, the US Third Army consumed 350,000 gallons of gasoline every day. Today, it is estimated that one armored division equipped with M1 tanks will consume over 600,000 gallons of fuel per day, more than twice the consumption of Patton's entire army."⁷ The participation of corps in large scale maneuvers in Germany provides some training on a large scale. Yet, each of us can relate incidents where various limitations restricted maneuver of elements below corps level.

Another dilemma facing the support command's ability to perform its task is the manning issue. The majority of the forces required to ensure the corps support command does its job adequately is non-active duty soldiers. These soldiers do not have the state-of-the-art expertise required to perform the necessary high-tech combat service support tasks. If we say they do, then we are only kidding ourselves. We must ask, "How can the expertise be developed and how is it sustained?" There are no immediate solutions to the problems, however, the issues must be discussed openly throughout the

army, and alternatives developed to ensure adequate combat service support will be available to the heavy corps in a timely manner. Consider a few facts about the status of the Army National Guard and Reserves. This information was extracted from nonclassified briefings given by LTC Temple and MG Ward:

---Eleven billion dollars are required for full mobilization (i.e., upgrading equipment, providing equipment not on hand, etc.)

---Average yearly training time:
Officers: 79 days
Enlisted: 47 days

---Normally the units require 60 days before deployment:

Mobilization	21 days
Movement and Organizing for Combat	25 days
Unit Training	14 days
TOTAL	60 days

---Combat service support units are short high-tech military occupational specialties, equipment and personnel.

---Items required to enhance combat service support training include:

Tool sets
Training Aids
Diagnostic Equipment

---26,617 soldiers participated in overseas exercises during 1986.

---All grave registration soldiers are reservists.

---69% of medical assets are in the reserves.

---60% of Army Corps Aviation is in the reserves.

The following is provided to further illustrate the significance of combat service support: "Unit readiness cannot be achieved without logistical readiness - the availability and proper functioning of material, resources, and systems to maintain and sustain operations on a fluid - hungry battlefield. Support units should also be rigorously trained under realistic conditions."⁸

In the offense, the combat service support mission is to provide

continuous support forward to ensure the momentum of the attack. The support command cencepts

- "Give route priority to attacking forces
- Provide class III priority to attacking forces
- Provide maintenance and collection assistance on march routes
- Ensure medical services priority to attacking forces.

Exploiting unit support concepts

- Ensure complete basic load of classes I, III, V and IX on hand
- Ensure combat trains in close proximity to attacking forces
- Locate DS trains 1 to 2 hours behing attacking forces
- Move DS trains on secondary routed
- Establish forward control cells to call for emergency pre-packaged supplies

Follow and support force concepts

- Eliminate by-passed enemy elements
- Secure lines of communication
- Provide limited emergency combat service support
- Act as emergency data link with exploiting unit's organic combat service support forces

Support concepts for passed through units

- Provide POL for exploiting forces
- Assist with maintenance and salvage collection
- Ensure route priority to exploiting forces
- Assist with medical services."

Based on my conversation with a heavy corps commander on 12 February, the support command is not structured, manned or properly equipped to provide adequate support in an offensive operation. Review of the vast modernization that has taken place in the heavy divisions and comparison to the improvements in the corps support commands verifies the disparity. The divisions have grossly out grown the support commands. The support command must have abilities comparable to the maneuver elements' capability to wage war to support the corps.

EQUIPMENT

The corps commander has numerous pieces of equipment (from .45 caliber pistols to M1 Abrams tanks) to ensure the war is prosecuted adequately. A recapitulation of major end items was requested from the G4, III Corps on 13 February. The focus of this summary was to amplify what the corps commander has available to fight and win. However, this summary was not available in a non-classified version. Listed at enclosure 1 is an extract from 2nd Armored Division's New Equipment Handbook. This is an example of how the heavy divisions are being modernized.

EFFECTIVE MAINTENANCE

Regardless of the amount, type and availability of equipment in the heavy corps, the question often asked is "How effective is your maintenance program?" This issue is one of the glass balls highlighted by the former Chief of Staff of the Army, General Meyer. Without an effective maintenance program, the corps will be unable to accomplish the combat missions delineated by higher headquarters. Were it not for an effective maintenance program, the heavy corps could not fill the holes along the East Germany and Czechoslovakian borders.

If one reflects on events during World War II and the Korean Conflict, on the extended road marches and battles across Europe and Korea, it becomes obvious that it pays to have a comprehensive and well understood maintenance program. How does the corps commander accomplish this task? The most important step is to ensure the entire chain of command is involved and to ensure time and resources are provided to establish and sustain the program. Once established, an education program must be

sustained throughout the corps. We must ensure correct maintenance procedures are followed in garrison and during field training activities. The bottom line for the corps commander and his leaders is to establish a solid program, provide resources, have command presence and involvement, establish high standards, learn from mistakes and failures, and punish negligence and reward successes.

LEADERSHIP

Thus far, we have discussed command and control, doctrine, training, combat service support, equipment, and maintenance, and how these elements relate to the success of the heavy corps. Assume that we have all of the above; there is another essential ingredient required to ensure success - Effective leadership!

"The most essential element of combat power is competent and confident leadership. Leadership provided purpose, direction, and motivation in combat. It is the leader who will determine the degree to which maneuver, firepower, and protection are maximized; who will ensure these elements are effectively balanced; and who will decide how to bring them to bear against the enemy."¹⁰ One of our well known and respected soldiers, General Creighton W. Abrams said, "Know your job, and know it well; know your men, and be concerned for their will and ability to fight; know yourself, and be humble for the knowledge."¹¹

The question leaders in the corps must ask is: "How do I accomplish those tasks mentioned by General Abrams?" Consider the significance of knowing one's job and being a positive leader; one of the greatest responsibilities of all leaders in the corps is to be a role model, teacher and

trainer. If a leader is not prepared for the next battle, then neither are his subordinates, all leaders in the corps must assume the roles of quarterbacks. They are on the field directing the efforts of the corps and subordinate units, and experiencing the joys, trials and tribulations of their labor. If they are competent leaders, each knows how to support, teach, reflect, listen, analyze, grieve, rejoice, relax, laugh, and learn.

It is often mentioned that the unit (soldiers and equipment) is a direct reflection of the commander's personality. If this is true, then all leaders should strive to be compassionate, intelligent, courageous, and competent. The leader's image should reflect love and concern for his soldiers, dedication for all individuals in the unit, and determination to achieve and maintain high standards in all areas.

Is the US Army prepared to meet the challenges of the Soviets and their subordinate elements? "The US Army can meet these challenges. Superior performance in combat depends on essential components. First and foremost, it depends on superb soldiers and leaders with character and determination who will win because they simply will not accept losing."¹² I have worked for and served with four of the corps commanders presently commanding in Germany and in the United States. I believe very strongly that each one has the essential leadership traits and the qualities required to win in a high intensity environment.

CONCLUSION

We have explored the essential requirements for the heavy corps to fight and win in a high intensity environment. The army's latest doctrine has been published in FM 100-5; however, more needs to be written about division and corps offensive operations and logistical support. A heavy corps commander stated, "I guess if I were going to start all over again, I would probably try to spend more time on logistics. There's not much ^Rwritten about it. The corps is so complicated in logistics that I'd probably spend more time studying what the corps support command consists of and how the units interface. . . ." Training is conducted at all levels, but more corps-level exercises are required to enhance operational capabilities. Plus, modern weapons and equipment are being developed and provided to the combat arms and combat support soldiers. Furthermore, our leaders in corps, divisions, brigades, and battalions are technically and tactically proficient to win the battles.

Finally, the weakest element in the corps ability to win in high intensity environments is the inability of the support command to conduct its primary missions of arming, refueling, manning and maintaining the corps during offensive operations. The two primary reasons are lack of modernization in the combat service support area and the high percentage of required personnel who must come from the Army National Guard and Reserves.

The United States Army heavy corps will not win in a high intensity environment if the tail is not structured, equipped and trained to support the teeth for offensive operations.

ENDNOTES

1. William R. Richardson, "FM 100-5, The Airland Battle in 1986", Military Review, Vol. LXVI, No. 3, March 1986, p. 5.
2. John W. Vessey, Jr., "Command Effectiveness and C³", Defense 83, November, p. 3.
3. FC 100-15, Corps Operations, March 1984, p. 3-2.
4. Ibid., P. 4-1.
5. Richard J. Katter, "The First Commandment of Leadership: Love Thy Soldier", Military Review, July 1980, p. 66.
6. FC 100-15, Corps Operations, March 1984, p. 7-8.
7. FM 100-5, Operations, May 1986, p. 60.
8. Ibid., p. 7.
9. FC 100-15, Corps Operations, March 1984, p. 7-40 to 7-41.
10. FM 100-5, Operations, May 1986, p. 13.
11. Ernest L. Webb, "The Three Knows of Command", Army, April 1980, p. 57.
12. FM 100-5, Operations, May 1986, p. 5.

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